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**Bedekar et al.**(10) **Pub. No.: US 2016/0366009 A1**(43) **Pub. Date: Dec. 15, 2016**(54) **METHODS AND APPARATUS FOR RADIO  
ACCESS NETWORK RESOURCE  
MANAGEMENT**(52) **U.S. Cl.**  
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Systems and techniques for managing interaction between a network operator and entities managing resources and instances in a virtual radio access network. A radio access network resource manager comprises a database mapping cells to resources and instances associated with the cells, and one or more interfaces between the network operator and the entities managing resources and instances. The radio access network manager mediates commands and information received from the network manager and from the entities managing resources and instances, translating cell-level commands and information from the network manager to commands and information relating to associated resources and entities, and translating resource and instance-level information and requests from the entities managing resources and instances to cell-level information and requests to the network operator.

